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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,318	09/12/2006	Jens Schaefer	1NA-51	2633

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EXAMINER	
CHANG, CHING	

ART UNIT	PAPER NUMBER
3748	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,318	SCHAEFER ET AL.	
	Examiner	Art Unit	
	CHING CHANG	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the amendment filed on 12/29/08. Claim 12 is cancelled as requested.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11, and 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, " the other gear " in line 8 of claims 1-2, " the gearing " in line 13 of claims 1-2, " the elastic sleeve " in line 14 of claims 1-2, " the sleeve " in lines 15-16 of claim 1 and in lines 16-17 of claim 2, " the ring gear " in line 16 of claim 1 and in line 17 of claim 2, " the sleeve " in claims 3-5 and 15-16, " the ring gear " in claims 5-6, " the BLDC motor " in claim 8, and " the components " in claim 14 are lacking of antecedent basis, thus render the claimed subject matter in claims 1-11, and 13-20 indefinite.

Furthermore, " preferably " in line 2 of claim 7 renders the claimed subject matter in claim 7 indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. ***Claims 1, 4/1, 5/1, 6/1, 8/1, 13/1, 14/5/1, and 20/1 are rejected under 35 U.S.C. 102(b) as being anticipated by Elrod et al. (US Patent 5,417,186).***

Elrond discloses an electric camshaft adjuster for adjusting and securing the phase angle of a camshaft (20, 24) of an internal combustion engine with respect to a crankshaft, comprising: a drive wheel which is connected fixedly in terms of rotation to the crankshaft (19), an output component (37) which is fixed to the camshaft, and a harmonic drive (70, 40, 50, 60; 170, 160, 40, 50) having at least one ring gear-spur gear pairing, one gear being connected fixedly in terms of rotation to the drive wheel, and another gear having at least a torque transmitting connection to the output component, at least one spur gear (70; 170) being embodied as a flexurally elastic sleeve and being arranged at least partially within a first ring gear (50; 160), a wave generator (80; 180) which is driven by an electric adjustment motor (73) by means of an adjustment shaft (75; 175) which is fixed to the gearing, the wave generator has means for elliptically deforming the flexurally elastic sleeve, the said sleeve is deformed in a way that a torque-transmitting connection is formed between the ring gear and the said sleeve at

two points on the sleeve lying opposite one another, wherein at least one of the gears of the ring gear-spur gear pairing is formed in one piece with the drive wheel output component; wherein a second ring gear (40) is arranged in the axial direction next to the first ring gear and coaxially with respect thereto, the said sleeve is arranged at least partially within the second ring gear and enters into a torque-transmitting connection with the second ring gear at two points lying opposite one another; wherein the torque-transmitting connection between the first ring gear and the said sleeve is implemented by means of an external toothing of the sleeve which engages in an internal toothing of the ring gear, and the number of teeth of the internal toothing of the ring gear differs from the number of teeth of the external toothing of the sleeve; wherein the torque-transmitting connection between the ring gear and the said sleeve is implemented by means of an external toothing of the said sleeve which engages in an internal toothing of the ring gear, and the number of teeth of the internal toothing of the ring gear differs from the number of teeth of the external toothing of the sleeve; wherein the torque-transmitting connection between the ring gear and the sleeve is implemented in a frictionally locking fashion by means of the interaction of the smooth internal lateral face of the ring gear and the smooth external lateral face of the sleeve; wherein the motor shaft of the motor and the adjustment shaft have a connection by means of a rotationally fixed but radially movable.

In addition, regarding the rejection to claims 13/1-14/5/1, and 20/1, when a product by process claim is rejected over a prior art product such as that shown in Elrod, which appears to be identical, although produced by a different process, the

burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See In re Marosi, 218 USPQ 289 (Fed. Cir. 1983).

6. ***Claims 2, 4/2, 5/2, 6/2, 13/2, 14/5/2, 18-19, 20/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (US Patent 5,417,186).***

Elrond discloses an electric camshaft adjuster for adjusting and securing the phase angle of a camshaft (20, 24) of an internal combustion engine with respect to a crankshaft, comprising: a drive wheel which is connected fixedly in terms of rotation to the crankshaft (19), an output component (37) which is fixed to the camshaft, and a harmonic drive (70, 40, 50, 60; 170, 160, 40, 50) having at least one ring gear-spur gear pairing, one gear being connected fixedly in terms of rotation to the drive wheel, and another gear having at least a torque transmitting connection to the output component, at least one spur gear (70; 170) being embodied as a flexurally elastic sleeve and being arranged at least partially within a first ring gear (50; 160), a wave generator (80; 180) which is driven by an electric adjustment motor (73) by means of an adjustment shaft (75; 175) which is fixed to the gearing, the wave generator has means for elliptically deforming the flexurally elastic sleeve, the said sleeve is deformed in a way that a torque-transmitting connection is formed between the ring gear and the said sleeve at two points on the sleeve lying opposite one another, wherein at least one of the gears of the ring gear-spur gear pairing is formed in one piece with the drive wheel output component; wherein the means for elliptically deforming the flexurally elastic sleeve are two bearing journals (81) which are attached to the adjustment shaft and bear against two regions of the sleeve lying opposite one another; wherein a second ring gear (40) is

arranged in the axial direction next to the first ring gear and coaxially with respect thereto, the said sleeve is arranged at least partially within the second ring gear and enters into a torque-transmitting connection with the second ring gear at two points lying opposite one another; wherein the torque-transmitting connection between the first ring gear and the said sleeve is implemented by means of an external toothing of the sleeve which engages in an internal toothing of the first ring gear, and the number of teeth of the internal toothing of the first ring gear differs from the number of teeth of the external toothing of the sleeve; wherein the torque-transmitting connection between the ring gear and the said sleeve is implemented by means of an external toothing of the said sleeve which engages in an internal toothing of the ring gear, and the number of teeth of the internal toothing of the ring gear differs from the number of teeth of the external toothing of the sleeve; wherein the torque-transmitting connection between the ring gear and the sleeve is implemented in a frictionally locking fashion by means of the interaction of the smooth internal lateral face of the ring gear and the smooth external lateral face of the sleeve; wherein the motor shaft of the motor and the adjustment shaft have a connection by means of a rotationally fixed but radially movable; wherein the bearing journals are rotatably attached to the adjustment shaft using an eccentric fastening means and can be secured in a desired rotational angle position.

In addition, regarding the rejection to claims 13/2-14/5/2, and 20/2, when a product by process claim is rejected over a prior art product such as that shown in Elrod, which appears to be identical, although produced by a different process, the

burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See In re Marosi, 218 USPQ 289 (Fed. Cir. 1983).

Elrod further discloses a ball bearing (84) being arranged on each of said bearing journals.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a roller bearing ifor each of said bearing journal, since the use thereof would provide an alternative electric camshaft adjuster.

7. ***Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (as applied to claims 1-2 above) in view of design choice.***

The Applicant of this instant application has not disclosed that the specific material to make the components would provide an advantage, a particular purpose, or a solution to a stated problem.

Therefore, it would have been obvious to one having ordinary skill in the art as a matter of design choice, to select the lightwewight material made components, as necessary.

8. ***Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (as applied to claims 1-2 above) in view of Decristofaro et al. (US Patent 7,144,468).***

Elrod discloses the invention, however, fails to disclose the electric adjustment motor being a brushless DC motor comprising a rare earth magnet.

The patent to Decristofaro on the other hand, teaches that it is conventional in the electirc motor art, to have utilized a brushless DC motor (60, 62) comprising a rare earth magnet.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the brushless DC motor comprising a rare earth magnet, as taught by Decristofaro in the Elrod device, since the use thereof would provide a more efficient electric camshaft adjuster.

9. ***Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elrod et al. (as applied to claims 1-2 above) in view of design choice.***

The Applicant of this instant application has not disclosed that the sleeve being of pot-shaped design would provide an advantage, a particular purpose, or a solution to a stated problem.

Therefore, it would have been obvious to one having ordinary skill in the art as a matter of design choice, to select the sleeve in a pot-shaped design.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 3/1, 5/1, 6/1, 8/1, 10/1, 13/1, and 14-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHING CHANG whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ching Chang/
Primary Examiner, Art Unit 3748